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THE GENERA OF LYCAENOPSINI (LEPIDOPTERA : LYCAENIDAE)

By A. Steven Corbet, D.Sc., Ph.D., F.I.C., F.R.E.S.

It is apparent that not all the species placed in the genus *Lycaenopsis* by Fruhstorfer (1922 *in* Seitz, *Grossschmett. Erde*, **9** : 858–877) are congeneric, but it is not easy to decide to what length a process of division can usefully be carried. It seems inadvisable to separate genera on the sole basis of differences in the genitalia.

Toxopeus (1927, *Tijd. Ent.*, **70** : 232–302) recognised eight genera of the Lycaenopsini and divided *Celastrina* (which contains the majority of the species under consideration) into five sub-genera. Essentially, *Acytolepis* and *Celastrina* differ only in that androconial scales are absent from males of the former, and I can find no satisfactory character separating *Oreolyce* from *Celastrina*. Although *argiolus* L. and *puspa* Hsf. (the respective types of *Celastrina* and *Acytolepis*) show obvious differences, the division of genera proposed by Toxopeus separates such closely allied species as *carna* Nic.* and *puspa* Hsf., while the *Acytolepis*-like *cyma* Tox. falls among the *Celastrina*. The grouping employed by Evans (1932, *Ident. Indian Butt.* (2nd ed.) : 221–225) appears to be a much more natural arrangement. The Indian species *binghami* Chapm. (the type of *Notarthrinus*) has distinctive genitalia but otherwise differs from *Celastrina* species only in the possession of circular instead of quadrate androconia : in general appearance *binghami* resembles *musina* Snell., and I consider that *Notarthrinus* should fall to *Celastrina*.

I suggest the following arrangement of the Lycaenopsini genera.

Lycaenopsis Feld. & Feld.

Lycaenopsis Feld. & Feld., 1865, *Reise Novara Rhopal.* : 257. Type = *Lycaenopsis ananga* Feld. & Feld., 1865 (= *Papilio haraldus* Fab., 1787, ssp.).

Eyes large, naked or finely haired; legs hairy but not shaggy; antennae black ringed with white. Fore-wing cell longer than half the length of the wing. Androconia absent. Fore-wing pointed with broad black border; females resembling *Castalius* and *Deilemera* (Arctiidae) forms.

Includes *haraldus* Fab., *matanga* Chapm., and *chelaka* Moult.

Arletta Hemming.

Arletta Hemming, 1935, *Stylops*, **4** : 3. Type = *Polyommatus vardhana* Mre., 1874.
Moorea Toxopeus, 1927, *Tijd. Ent.*, **70** : 255. Type = *Polyommatus vardhana* Mre., 1874. (Preoccupied by *Moorea* Jones & Kirkby, 1869 (Crustacea).)

Eyes normal size and finely haired; legs hairy but not shaggy; antennae black and ringed with white. Fore-wing cell longer than half the length of the wing. Androconia present. Large size and female rather similar to the male.

Monotypical.

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* This collective species is usually known as *marginata* Nic., but there are other claimants to this name. W. H. Edwards (1883, *Papilio*, **3** : 87 and issued 10.vii.1883) described a form of the American *Celastrina pseudargiolus* Bsdv. as *marginata* and this name has priority. Moore (1883, *Proc. zool. Soc. Lond.*, **1883** : 523, and dated 20.xi.1883) first used the name for the Indian species (Darjiling and Nepal) while de Nicéville employed the name for the same species (Sikkim) the following year (1884 (1883), *J. Asiat. Soc. Bengal*, **52** : 70; part 2 containing the page in question was issued 6.iii.1884). The oldest name for the collective species hitherto known as *marginata* Nic. is *carna* Nic., and to replace Moore's name I propose **Celastrina marata** nom. nov., taking as the male holotype Moore's type of *marginata* from Darjiling in the British Museum.

Celastrina Tutt.

Celastrina Tutt, 1906, *Ent. Rec.*, **18** : 131. Type = *Papilio argiolus* Linn., 1758.
Notarthrinus Chapman, 1908, *Proc. zool. Soc. Lond.*, **1908** : 677. Type = *Notarthrinus binghami* Chapman, 1908.
Oreolyce Toxopeus, 1927, *Tijd. Ent.*, **70** : 256. Type = *Lycaena quadriplaga* Snell., 1892.
Acytolepis Toxopeus, 1927, *Tijd. Ent.*, **70** : 271. Type = *Polyommatus puspa* Hsf., 1828.
Monodontides Toxopeus, 1928, *Tijd. Ent.*, **71** : 182. Type = *Nacaduba argioloides* Rothsch., 1916.
Ptox Toxopeus, 1928, *Tijd. Ent.*, **71** : 184. Type = *Cyaniris catreus* Nic., 1895.
Akasinula Toxopeus, 1928, *Tijd. Ent.*, **71** : 194. Type = *Polyommatus akasa* Hsf., 1828.
Udara Toxopeus, 1928, *Tijd. Ent.*, **71** : 219. Type = *Polyommatus dilectus* Mre., 1879.

Eyes normal size and finely haired; legs hairy but not shaggy; antennae black and ringed with white. Fore-wing cell shorter than half the length of the wing. Androconia present or absent. Usually, the male is blue above with a rather narrow black, fore-wing border; the female is white, or pale blue or purple, with a broad black border.

Includes *argiolus* Linn. and all other species listed by Evans under *Lycaenopsis* except *haraldus* Fab. and *vardhana* Mre. : *lenya* Evans is a true *Celastrina*. (The Malaysian *Celastrina* species will be dealt with in a forthcoming publication.)

Toxopeus (1926, *Treubia*, **8** : 370) stated that *cardia* Feld., of which the type is in the Tring Museum, is a species distinct from *dilectus* Mre. This I have confirmed and also that the original description of *cardia* refers to a species not conspecific with *dilectus* Mre.

Rhinelephas Toxopeus.

Rhinelephas Toxopeus, 1927, *Tijd. Ent.*, **70** : 259. Type = *Lycaena cyanicornis* Snell., 1892.

Eyes normal size and strongly haired; legs shaggy; antennae black and ringed with blue. Fore-wing cell shorter than half the length of the wing. Distinctive androconia present. Usual size and male with broad fore-wing border. Female unknown.

Includes *cyanicornis* Snell. and *arrhina* Toxopeus.

Uranobothria Toxopeus.

Uranobothria Toxopeus, 1927, *Tijd. Ent.*, **70** : 261. Type = *Lycaenopsis* (*Bothrinia*) *celebica* Fruh., 1917.

Eyes haired only in ventral half, where a hair tuft is present; legs hairy but not shaggy; antennae broken in type. Fore-wing cell shorter than half the length of the wing. Androconia present. Differs from all other Lycaenopsini in the greatly enlarged hind-wing. (*U. celebica* Fruh. is unknown to me *in natura*.)

Monotypical.

I am indebted to the authorities of the British Museum (Natural History) for granting facilities for the study of their collections, and to Brigadier W. H. Evans, C.S.I., C.I.E., D.S.O., and to Mr. Francis Hemming, C.B.E., for constructive criticism.

DESCRIPTIONS DE DEUX EUCNEMIDIDAE NOUVEAUX ET NOTE SUR LE GENRE *ECHTHROGASTER* BLACKBURN

Par E. Fleutiaux.

Communicated by Dr. K. G. Blair, F.R.E.S.

(1) Descriptions de deux Eucnemididae Nouveaux.

Dorsifornax epimeralis sp. n.

5·5 mm.—Allongé, atténué. Tête rougeâtre, densément ponctuée; épistome noirâtre, aussi large à la base que l'espace sousantennaire. Antennes noires, dépassant la base du pronotum; premier article rougeâtre; 2e très petit; suivants serriformes. Pronotum à peu près aussi long que large, parallèle, rétréci en avant dans le dernier tiers, très convexe, sillonné au milieu, caréné en éperon devant l'écusson; rougeâtre sur la ligne médiane, orné de deux bandes longitudinales d'une pubescence noire épaisse sur le dos et de chaque côté d'une bande plus large d'une pubescence grise soyeuse. Elytres atténués, légèrement striés; brun clair, rougeâtres sur la suture avec une bande longitudinale noire de chaque côté sur le dos et ornés d'une tache pubescente grise et soyeuse au sommet. Dessous noirâtre, brunâtre vers l'extrémité. Epimères métathoraciques apparents. Episternes parallèles. Hanches postérieures rétrécies en dehors où elles sont plus larges que les épisternes. Pattes grêles, testacé clair; tarses minces, un peu épaissis vers le bout; premier article des postérieurs aussi long que les autres ensemble; 4e excavé en dessus pour recevoir le 5e.

Singapore : (*Baker*) collection Fleutiaux; Penang : (collection Pascoe), British Museum.

Diffère de *D. diapodioides* Fleutiaux par le pronotum distinctement sillonné au milieu, orné de deux bandes pubescentes noires très apparentes et notamment par les épimères métathoraciques très découverts.

Genre voisin de *Diapodius* Bonvouloir.

Languriosoython stevensi sp. n.

10 mm.—Allongé; brillant; pubescence peu serrée, courte, dressée, inclinée en arrière, de la couleur du fond. Tête rouge, convexe, densément ponctuée; épistome déprimé à la base, élargi en avant, fortement échancré aux angles antérieurs. Antennes noires n'atteignant pas tout à fait la base du pronotum; premier grand; 2e très court; 3e aussi long que les deux suivants ensemble, épaissi au sommet; 4e à 8e courts, globuleux; trois derniers mats, plus grands, élargis en massue comme chez les Erotylides. Pronotum rouge, aussi long que large, parallèle, arrondi en avant, limité latéralement par une fine carène moins distincte vers le sommet, convexe, impressionné au milieu en arrière; angles postérieurs aigus; ponctuation moins serrée que sur la tête, écartée et plus fine vers la base. Ecusson noir. Elytres de même largeur que le pronotum, noirs, subparallèles, rétrécis dans le dernier tiers, conjointement arrondis au sommet, non striés; ponctuation éparse; épipleures rétrécis en arrière. Dessous rouge, plus clair sur le propectus; pointe prosternale et sommet du métasternum noirs, un peu enfumé vers le sommet de l'abdomen; pubescence jaune, ponctuation plus fine et plus serrée sur l'arrière-corps que sur le propectus.

Propleures sans sillons antennaires. Episternes métathoraciques parallèles. Hanches postérieures notablement rétrécies en dehors où elles sont aussi larges que les épisternes. Dernier arceau ventral arrondi. Pattes brunes; 4e article des tarses normal.

Nepal–Sikkim frontier : Gopaldhara (*H. Stevens*). Un exemplaire : British Museum.

Ressemble à *L. bakeri* Heller. Même coloration; taille plus grande. Epistome largement échancré aux angles antérieurs. Pronotum entièrement rouge jusque sur les angles postérieurs. Propleures sans trace de sillon antennaires, caractère principal de la sousfamille des Melasinae.

(2) Note sur le genre *Echthrogaster* Blackburn.

Le genre *Echthrogaster* a été décrit dans 1900, *Proc. Roy. Soc. Victoria*, **12** : 213, pour une espèce unique, *E. lugubris*, de la presqu'île d'Eyre, Australie du Sud, comme Elateridae (*Campylidarum*?). Le *Zoological Record* de 1900 a bien placé ce genre parmi les Elateridae, mais il n'a jamais été cité dans aucun catalogue.

J'ai eu la bonne fortune, tout dernièrement, de découvrir au British Museum, le type unique de Blackburn et j'ai pu me convaincre qu'il doit être rangé parmi les Eucnemididae Melasinae. Pour faciliter son classement, je vais indiquer ci-après les caractères qui permettront de l'intercaler dans le tableau de cette sous-famille que j'ai donné dans 1921, *Ann. Soc. ent. Belg.* **61** : 223. Il s'y placera dans le voisinage immédiat de *Hemiopsida* MacLeay, dont il diffère, à première vue, par sa forme étroite et allongée et par son pronotum aplati.

Echthrogaster Blackburn.

Forme étroite, allongée, atténuée. Noir mat; pubescence uniforme, gris obscur. Epistome sur un plan vertical, légèrement creusé en cuvette. Antennes filiformes, atteignant la moitié du corps; 2e article petit; 3e un peu plus long que le 4e; suivants subégaux. Pronotum aplati, transversal, arrondi sur les côtés, un peu plus étroit en avant. Elytres longs, graduellement atténués, fortement striés-ponctués. Propleures triangulaires. Epimères métathoraciques cachés. Hanches postérieures graduellement élargies en dedans, faiblement dentées vers la moitié. Deuxième et troisième segments abdominaux nettement et profondément sillonnés parallèlement au bord latéral; dernier arrondi au bout. Pattes longues; articles des tarses un peu plus larges au sommet; 4e normal; griffes épaissies à la base, anguleuses vers la moitié.

Nota. C'est dans le genre *Hemiopsida* qu'il faut faire entrer *Dictyeucnemis niveus* Lea.

NEW AUSTRALIAN CURCULIONIDAE (COL.)

By Sir Guy A. K. Marshall, C.M.G., D.Sc., F.R.S., F.R.E.S.

The types of the following new species have all been deposited in the British Museum.

Subfamily Gonipterinae.

Pantoreites clarki sp. n.

♂♀. Derm black; pronotum with a broad median stripe of narrow grey scales which does not quite reach the base, and on each side a short grey stripe from the base to about the middle; elytra with rather dense grey scaling and a dark pattern formed of areas on which the scaling is very sparse or absent, viz. a large common transverse patch at the base, extending laterally to interval 4 and connected along the suture with a broad oblique

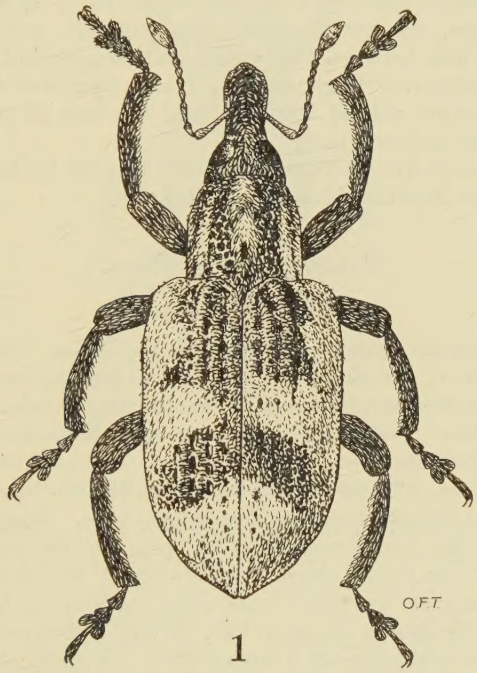

Fig. 1.—*Pantoreites clarki* sp. n.

band on each elytron behind the middle running from the suture to interval 6, and a small dark spot under the shoulders; underside with dense grey scaling throughout.

Head very shallowly impressed dorsally behind the eyes, with coarse deep confluent punctation and sparse narrow pale scales; forehead very narrow, less than one-third of the width of the head across the eyes, with a deep oval median fovea. *Rostrum* slightly longer than the head in ♂, a little longer still in ♀, gradually widening from base to apex, the punctures large and rugose in the basal half, becoming small and sparse near the apex. *Antennae* inserted at about the middle of the rostrum; joint 2 of the funicle slightly longer

than 3, and 3 longer than 4, all the distal joints longer than broad. *Prothorax* nearly as long as broad, parallel-sided from the base to beyond the middle in ♂ and then narrowed to the apex, more gradually narrowed from base to apex in ♀; the dorsum with very coarse deep subreticulate punctures, the intervals between which are unevenly raised and partly subgranulate, and with a broad shallow median furrow, which contains a flattened median carina and is deeper anteriorly, and on each side of it a broad bare stripe in which the punctures are much larger than elsewhere; the punctures on the pleurae hidden by broad scales. *Scutellum* elongate, elevated, convex, with sparse setiform scales. *Elytra* ovate, broader than usual, with prominent rounded subrectangular shoulders, jointly rounded at the apex, with low obtuse subapical calli; the striae with very large deep punctures in the bare areas and almost concealed by scaling elsewhere; the intervals rugosely granulate, interval 3 forming at the base a short broad granulate costa. *Legs* with all the tibiae finely denticulate, the anterior pairs rather strongly curved. *Sternum* without any prominence on the mesosternal process, and without ante-coxal tubercles on the metasternum.

Length 6–7 mm., breadth 2·7–3·1 mm.

Western Australia : Swan River, 1 ♂, 2 ♀♀ (*J. Clark*).

An aberrant species differing from its congeners in its stouter build, more prominent shoulders, narrow forehead and rugosely sculptured pronotum. It seems to form a link between *Pantoreites* and *Oxyops*, but it differs from the latter in its comparatively long rostrum, much narrower build, the absence of a lateral constriction behind the eyes, and the lack of prominences on the mesosternum and metasternum.

The specimens were kindly presented to me in 1923 by Mr. John Clark, now Entomologist to the National Museum, Melbourne.

Subfamily Hylobiinae.

Diraeus gen. n.

Head separated from the rostrum by a transverse impression. *Rostrum* stout, twice as long as the head, curved; the scrobes oblique, but not passing beneath the base of the rostrum; the mentum short and transverse, without setae, the peduncle somewhat longer and narrowed at the base. *Antennae* with the scape strongly clavate, rather short, as long as the three basal joints of the funicle, which is 7-jointed, with joint 7 free; the club broadly ovate, entirely pubescent, with the sutures transverse, the two basal joints equal. *Prothorax* gently arcuate at the base, with distinct postocular lobes. *Elytra* elongate, suboblong, jointly sinuate at the base, jointly rounded at the apex, with ten complete striae. *Wings* functional. *Legs* with the femora clavate, arched dorsally but almost flat and unarmed beneath; the tibiae uncinate and with a small mucro, more or less bisinuate on the lower edge and minutely denticulate on the apical half, the hind corbels not ascending the dorsal edge of the tibiae; the tarsi with joint 3 asymmetrical, 4 elongate, with free simple claws. *Sternum* with the front coxae narrowly separated and the prosternum broadly sulcate; the mesosternal process only a little wider than the prosternal; the metasternum much longer than the middle coxae. *Venter* with the intercoxal process equal, narrower than a coxa; ventrite 2 as long as 3+4.

Genotype : *Diraeus cristatus* sp. n.

Belongs to the tribe Lithinini, being most nearly related to the Malayo-Papuan genus *Seleuca* Pasc., 1871, which differs *inter alia* in having the scrobes passing beneath the base of the rostrum, the mesosternal process is strongly transverse, the femora bear a sharp tooth, and the tibiae are not denticulate internally and have the corbels ascending.

Diraeus cristatus sp. n.

♂. Derm red-brown, with dense brown or fulvous scaling and lighter and darker markings; head with a darker median patch divided by a pale stripe; prothorax mottled with fawn, grey and blackish scales; elytra fulvous with indefinite grey mottling, a small lateral post-humeral blackish patch and two short oblique blackish bands following it, and a short lateral whitish stripe running from the basal angle to the shoulders (invisible from above); underside with dense fawn or fulvous scaling laterally and sparse setae in the middle.

Head very convex, with rugulose punctation, the darker median patch bearing narrow scales, elsewhere broader pale scales. *Rostrum* shorter than the pronotum (8 : 11), parallel-sided, rather strongly curved dorsally but almost flat beneath, thickest (in lateral view)

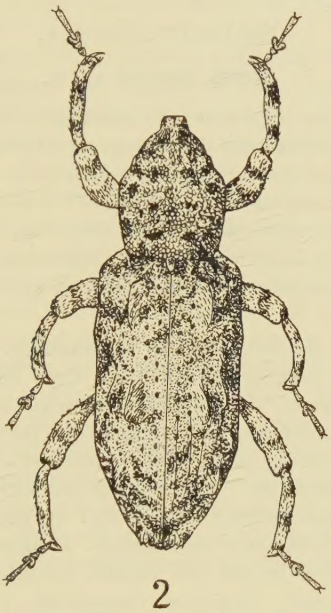

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Fig. 2.—*Diraeus cristatus* sp. n.

near the base and narrowing to the apex; with dense fulvous scaling from the base to the antennae and with three narrow bare carinae, the outer ones curving inwards at the base; the apical area entirely bare and with shallow rugulose punctation. *Antennae* with joint 1 of the funicle strongly clavate, as long as 2+3+4, 2 twice as long as broad, the remainder transverse and closely set, 7 broader than 6. *Prothorax* as long as broad, widest a little beyond the middle, moderately rounded laterally, rather abruptly constricted near the apex, the constriction continued broadly across the disk, the apical margin strongly arcuate; the dorsum flat longitudinally, the fine reticulate punctation almost hidden by rather large rounded subcontiguous scales, with a curved transverse row of large subconical tubercles in front of the middle, and mid-way between this and the base another parallel row of four flattened tubercles. *Scutellum* elongate, parallel-sided, with dense grey scaling. *Elytra* narrow, widening obliquely from the basal angles to the shoulders and thence parallel-sided to two-thirds of the length, the basal angles projecting forwards and embracing the base of the prothorax; the striae shallow and more or less sinuous, with deep distant punctures, each containing a scale; the intervals irregular, with the following short (0·5 mm.) high ridges crowned with dense subrecumbent setae : a longitudinal one near the base

of interval 3 and an oblique one just beyond the middle, and a longitudinal one on interval 5 at the top of the declivity; at the middle of 5 a longer oblique ridge which is lower in the middle and higher and setose at its ends, a small elevation on 7 at one-third from the apex, 8 slightly raised on its apical half, and 10 forming an obtuse callus at the apex; the scales much smaller than those on the thorax and overlapping. *Legs* with yellowish-white or pale buff scaling, the femora with a light brown patch at the middle and another near the apex, the hind pair with also a blackish patch above in the middle; the tibiae with a blackish patch a little beyond the middle and a smaller one near the base.

Length 4·5–4·8 mm., breadth 1·5–1·7 mm.

Queensland: Ravenshoe, 4 ♂♂, iv.1934.
Received from Mr. R. Veitch, Government Entomologist, Queensland.

Subfamily Belinae.

Belus bassiae sp. n.

♂♀. Colour red-brown, the upperside with markings of pale yellow (rarely yellowish-white) pubescence, the underside with dense pure white pubescence; head with a stripe along the inner margin of the eyes; pronotum with a dense median stripe (often more or less abraded), and rarely a small spot on each side of it; scutellum with dense pure white pubescence; elytra with a macular yellow sutural stripe like that in *scalaris* Germ.; underside with the pubescence very dense laterally, very sparse elsewhere except for a somewhat denser median stripe, the metepisterna with a small bare spot on the upper margin near the base.

Head coarsely punctate, the forehead also subgranulate. *Rostrum* as long as the pronotum, narrowed from the base to the antennae, there obtusely subangulate laterally, then widening again to the apex; the punctures coarse and subconfluent on the basal half in ♂, much finer and isolated on the apical half, those of ♀ proportionately finer throughout; the underside with comparatively small shallow punctures, without any median furrow, but with a shallow stria on each side. *Antennae* inserted well behind the middle of the rostrum in ♂, with the scape short, shorter than 1+2 of the funicle; 1 shorter than 2 or 3, as long as 4, 5–7 broader, a little longer than broad. *Prothorax* slightly longer than broad, rounded laterally, widest well behind the middle, strongly granulato-punctate, with a broad shallow median furrow. *Scutellum* trapezoidal, transverse. *Elytra* distinctly sinuate laterally in the basal half, dehiscent and separately rounded at the apex but projecting for only a short distance beyond the abdomen, with a broad sub-basal impression on each side so that the suture appears to be elevated at the base, and with coarse subreticulate punctures throughout without any granules, a foveiform impression at the extreme base on each side of the scutellum. *Legs* with the femora edentate, the front pair stouter; the front tibiae strongly, the others more feebly denticulate.

Length 9·5–10·5 mm., breadth 1·9–2·0 mm.

W. Queensland: Chinchilla, 8 ♂♂, 1 ♀, bred from *Bassia tricuspis*, xii.1934–ii.1935 (*A. P. Dodd, S. Mann*).

Very closely allied to the southern *B. scalaris* Germ., which differs in the following characters:—Rostrum rather stouter, almost (♂) or quite parallel-sided (♀), more strongly punctate on the apical half, with a deep median furrow beneath and a curved one on each side of it; antennae inserted at the middle of the rostrum in ♂, with the scape equal to or longer than the two basal joints of the funicle; elytra much more produced at the apex, exceeding the end of the abdomen by the length of the last ventrite, with a deep transverse sulcus along the basal margin of the elytra.

Subfamily Cryptorrhynchinae.

Decilaus bassiae sp. n.

♂♀. Derm black to piceous, clothed above with black scales; prothorax with the following markings of fulvous scales: a very narrow band along the extreme basal margin, another along the edge of the postocular lobes, a curved transverse discal row of three very small spots (sometimes absent) and a spot in the middle of the apical margin; elytra with the following fulvous markings: a variable patch in the basal angles on intervals 5–7, a very variable and irregular macular band at the top of the declivity from intervals 2 to 7, some variable spots on the declivity, a short stripe along the apical margin, and scattered fulvous scales on the disk; sternum with fulvous scaling including all the coxae; venter with the two basal ventrites broadly fuscous in the middle and a round fuscous patch on the last tergite, elsewhere fulvous.

Head with rugose punctation hidden by black and brown scaling, the forehead with the scales more or less erect. *Rostrum* very rugosely punctate throughout, somewhat smoother in ♀, dilated at the base and deeply incised in front of the eyes. *Antennae* inserted a little behind the middle of the rostrum; the scape very short, as long as the two basal joints of the funicle, which are equal. *Prothorax* nearly as long as broad, strongly rounded laterally, slightly narrowed behind, widest at one-fourth from the base, which is subtruncate; dorsum highest at the base and sloping forwards, with large deep subreticulate punctures, which are not at all concealed by the suberect scaling, and with a trace of a narrow median line in the basal half; the pleurae with larger reticulate punctures. *Elytra* rather broadly ovate, truncate at the base and there a little wider than the prothorax; the shallow striae with rows of large deep punctures; the intervals as broad as the striae, with rugose punctures hidden by recumbent scales, except on intervals 9 and 10 which in the middle half of their length are bare, shiny and impunctate. *Legs* short and very stout, the femora at their widest much wider than the rostrum, edentate, rugosely punctate, and with dense recumbent scaling; the tibiae with dense erect scales, the external apical angle projecting and with a broader tooth a little above it (both more or less hidden by scaling). *Sternum* with the prosternal furrow squamose; the mesosternal receptacle about as high as the middle coxae, its upper edge comparatively shallowly sinuate, clothed posteriorly with long hairs in ♂ and scales in ♀. *Venter* with close deep punctures on the basal ventrite and no transverse impressions.

Length 4·6–5·0 mm., breadth 2·5–2·7 mm.

Queensland: Dalby, 2 ♂♂, 2 ♀♀, bred from *Bassia birchii*, xi.1935 (*N. Geary*).

Kindly submitted by Mr. A. P. Dodd.

Most nearly allied to *D. perditus* Pasc., which differs *inter alia* in having the antennae inserted at about one-third from the apex of the rostrum, so that the scape is nearly as long as the funicle; the scaling is brown and not black; the prothorax is much more strongly constricted in front and the scales on the disk are entirely recumbent.

Tepperia brachychitonis sp. n.

♂. Derm black, hidden by light brown scaling; prothorax with a large irregular whitish patch at the sides which includes two indefinite pale brown patches near the basal angles and emits a sharp elongate projection on to the disk beyond the middle, and in the middle of the basal half two indefinite approximated pale stripes (sometimes obsolete) which curve outwards distally; elytra with an elongate dark brown spot near the base of striae 3 and 4 separated by the narrow pale brown ridge of interval 4; on the declivity a conspicuous

common white fascia extending to interval 5, where it is as deep (1·5–2·0 mm.) as it is on the suture, being nearer to the apex than in any of its congeners, and with small dark brown spots adjoining it in front in striae 1–4; underside creamy whitish, the sides of the meso- and metasterna pale brown, and the venter with two broad brown stripes down the middle and a shorter macular one on each side.

Head brown, with a whitish median stripe; the forehead flattened, wider than an eye, with an elongate median fovea. *Rostrum* brown on the basal half, grey apically, the dorsal outline rather strongly convex, with a strong median carina (partly concealed by scaling). *Antennae* with the funicle much longer than the club (7 : 5), joint 2 as long as broad. *Prothorax* transverse, conical, smooth, the scaling concealing the sculpture. *Elytra* ovate, slightly wider at the base than the prothorax, widest just behind the very sloping shoulders, thence gradually narrowing behind, separately rounded at the apex, and with a broad subapical constriction; the striae with the usual large subquadrate punctures, each containing a white scale; intervals 3 and 5 more elevated than the others, the former being higher than 5, especially at the top of the declivity; the scales never forming tufts, even the white ones lying quite flat. *Legs* with all the femora strongly dentate; the posterior pairs of tibiae acutely angulate dorsally near the base, forming a sharp tooth, that on the front pair obtuse or obsolete; joint 2 of the front tarsi strongly transverse.

Length 9–11 mm., breadth 5·0–6·7 mm.

Western Australia: Kalgoorlie, 6 ♂♂, on trunks of kurrajong trees (*Brachychiton*), 6.ix.1923 (*G. A. K. Marshall*).

In the British Museum there are two examples of *Tepperia* identified by the late A. M. Lea as *T. major* Lea 1903; one of these, from the Fry collection and labelled "Nova Holland," appears to be undoubtedly Lea's species, but the other, from Queensland, is certainly distinct and is described below.

Tepperia bryanti sp. n.

♂. Derm red-brown, variegated with large creamy-white patches and dark brown spots; prothorax brown on the disk with darker mottling and small spots of whitish scales, the sides and the whole of the pleurae covered with a large patch of dense creamy scales, which has sharply defined edges and an inward projection beyond the middle and includes a large subquadrate spot in the basal angle and a small round one near the apex; elytra with a common transverse whitish fascia across the top of the declivity to interval 5, where it is as deep (1 mm.) as it is on the suture, and externally to it two transverse whitish lines near the lateral margin, between the fascia and the apex a transverse dark brown line from stria 2 to interval 5, in front of the fascia various irregular dark brown spots in the striae, a larger brown patch at the base of striae 3 and 4 just as in *T. brachychitonis*, and scattered white scales elsewhere; the underside with dense whitish scaling, turning to brown at the sides of the meso- and metasterna, and a large oblong brown patch in the middle of the last three ventrites.

Head with large scattered punctures showing through the brown scaling; the forehead flat, somewhat narrower than an eye, with an elongate median fovea. *Rostrum* with dense brown scaling concealing the sculpture and without any evident median carina. *Antennae* abnormal, the funicle much shorter than the scape and only half as long as the club, with joints 2–7 closely appressed and strongly transverse, 7 being 2·5 times as broad as long; the club with the apical joint slightly longer than the two basal ones together, compressed and broadly rounded at the apex. *Prothorax* transverse (2 : 3), subconical, with a broad transverse subapical depression and immediately behind it two low obtuse elevations bearing dense erect scales; the sculpture otherwise hidden by scaling except for an abbreviated narrow smooth median line. *Elytra* broadly ovate, subtruncate laterally at

the base, widest behind the sloping shoulders, separately rounded at the apex; the striae with large subquadrate punctures, the alternate intervals slightly raised, but interval 3 with a short higher elevation near the base and a much higher, broader and longer one at the top of the declivity; the scales on these elevations dense and erect, elsewhere recumbent. *Legs* with a stout tooth on all the femora; the dorsal sub-basal angulation distinct but obtuse on the middle tibiae, much reduced on the hind pair, and obsolete on the front pair; the tarsi with joint 2 longer than broad.

Length 12 mm., breadth 6 mm.

N. Queensland: Kuranda, 1 ♂, 1911 (*G. E. Bryant*).

Apart from its abnormal antennae, this species differs from its congeners in its notably shorter prothorax, with its dorsal elevations and conspicuous cream-coloured patches.

The four known species of the genus may be distinguished as follows:—

1(6). Antennal club equal to or shorter than the funicle, its last joint acuminate, not compressed and much shorter than the two basal ones together; pronotum without elevations.

2(5). Antennal club as long as the funicle; transverse pale band on elytra narrowing to a point on interval 5, its front edge approximately straight (apart from denticulations), its hind edge convex; the paler scales on the higher intervals often erect and forming small tufts.

3(4). Forehead broader than an eye; pronotum with the apical area shallowly depressed below the disk; length 9 mm. or less . *sterculiae* Lea, 1903.

4(3). Forehead somewhat narrower than an eye; pronotum not depressed apically but sloping with a regular curve; length 11 mm. or more *major* Lea, 1903.

5(2). Antennal club much shorter than the funicle (5 : 7); transverse whitish band on elytra with its front edge broadly arcuate, its hind edge sinuate; all scales on elytra recumbent . . . *brachychitonis* sp. n.

6(1). Antennal club twice as long as the scape, its last joint slightly longer than the two basal joints together, compressed, and broadly rounded at the apex; pronotum with two very low obtuse elevations beyond the middle . . . . . *bryanti* sp. n.

T. sterculiae is now fixed as the type of the genus.

From the foregoing key *T. bicrucicollis* Lea, 1928, has been omitted. Lea himself obviously had some doubts as to the species being a true *Tepperia*, and in these he was clearly justified; a new genus is therefore proposed for its reception.

Amleanus gen. n.

The genus is distinguished from *Tepperia* by the following characters:— The metasternum is as long as the basal ventrite in the middle line; the elytra have the shoulders roundly subrectangular and are parallel-sided from the shoulders to the middle; the forehead is much narrower, being less than half the width of an eye; the posterior pairs of femora are edentate and the front pair has only a minute tooth; the tibiae are not angulate dorsally.

In *Tepperia*, on the other hand, the metasternum is shorter than the basal ventrite; the general form is characteristically boat-shaped, the elytra having the shoulders very obliquely rounded and narrowing from behind the shoulders to the apex; the forehead is broad, being broader or only slightly narrower than an eye; all the femora bear a stout tooth; at least the posterior pairs of tibiae have a sharp dorsal angulation near the base.

Genotype: *Amleanus bicrucicollis* (Lea).

THE RHOPALOCERA OF ABYSSINIA: CORRECTIONS AND COMMENTS BY MONSIEUR H. UNGEMACH *

By Professor G. D. Hale Carpenter, F.R.E.S.

Monsieur H. Ungemach has been good enough to correct some errors made in my allusions (1935, *Trans. R. ent. Soc. Lond.*, **83** : 313–440) to his fine paper on the same subject (1932, *Mem. Soc. Sci. nat. Maroc.*, **32** : 1–122).

page 335. *Mylothris rhodope amhara* Ung. The last paragraph in Talbot's account of this species refers to a female stated to be probably one collected by M. Ungemach, who informed me that this is certainly so and that he has many females identical with this specimen, and " similar to the male in design and expanse, but of cream colouring, and with the base of the fore-wing, often as far as two-thirds of the cell, tinted with very pale orange. Underside like the male, down to the large orange spot at base of wings, but here also the ground-colour is cream, sometimes light ochreous."

Mr. Talbot has now revised his earlier opinion of this butterfly and has kindly written for me the following :—

" The ♀ specimen from Abyssinia (ex Le Moult) to which I referred briefly under *amhara* is obviously not this species. In shape of wings and ground-colour (chalky-white) it resembles *rueppellii* and is doubtless the ♀ of a ♂ *rueppellii*-like form of which I find two specimens in coll. Joicey (ex Le Moult). One of these was dissected and the clasper closely resembles a specimen of the Kenya *rueppellii*. These specimens have a different appearance from other races of the species. The basal area of f.w. on both sides is pale orange, not orange-red, and on the underside it is sharply defined. It extends nearly to vein 3 and occupies two-thirds of the cell. On the h.w. there is *no yellow flush* as in other *rueppellii* races, only a very slight pale orange flush restricted to extreme base. One specimen (without data) has very small apical black. The other specimen has much larger apical black and was taken at Gardjeda, 23.iv.1905.

" A specimen figured by Oberthür, 1878, *Et. d'Ent.*, **3**, pl. 1, f. 2, resembles *rueppellii* from Kenya. It was taken by Raffray, probably in east Abyssinia, but only ' Abyssinia ' is mentioned.—G. T."

Until it is possible to compare these specimens with M. Ungemach's forms described in his paper (*loc. cit.* : 24-5), and these latter with typical *rueppellii*, the precise identity of these specimens in question must still be in doubt.

p. 340. In line 6 after " hind-wing : " insert the following :—" the ground-colour varies from cream to pale sulphur yellow with, on the hind-wing, always a more ochraceous shade."

p. 344. *Colotis amatus calais* Cr. Add " Captured abundantly by Ungemach at Dire-Dawa, but nowhere else."

p. 346. *Colotis lorti* E. Sharpe. M. Ungemach wrote : " I cannot agree

* I regret to record the death of Mons. Henri Léon Ungemach on 11.vi.1936.—G.D.H.C.

with you that *aspasia* Ung. is a form of *lorti*. It is true the ornamental spot of my males is slightly larger than in typical *hetaera* but it is far from being as large as that of *lorti*, which descends on the costa as far down as the cell, comprising half of nervure 4 and three-quarters of nervure 5. *C. lorti* is also smaller and the nervures are not blackened at the extremity. The colour of the ornamental spot of *hetaera* and *aspasia* is purplish-carmine-red intermixed with a few white scales, whereas in *lorti* the colour of the scales is dull violet, the spot being composed of an equal number of coloured and white scales, very regularly alternating: the general effect is that of a very peculiar lilac tint."

In reply to M. Ungemach's comments I would point out that the size of the ornamental spot is variable in the series collected by Hodson: in some it only just oversteps the end of nerve 4 and in others reaches the end of nerve 3. As regards blackening of the extremities of the nerves, this is also variable in both typical *hetaera* and in Hodson's specimens, in some of each of which the black tint of the central part of the nerve disappears before the margin of the wing is reached. Two specimens of *lorti* at Oxford, from Somaliland, show the same difference in the nerves. I have alluded to the tint of the spot in Hodson's specimens being transitional between the " rather brick-red of *hetaera* and the more purple-red of *lorti*." I cannot see, in specimens at Oxford, that in *lorti* the spot differs from that of *hetaera* by having more white scales intermixed: the amount of white scaling in *hetaera* is very variable.

The figure of *aspasia* ♀ given by Ungemach differs from specimens of *hetaera* from L. Victoria (Kisumu) at Oxford only by a slight reduction of the amount of black at the ends of the veins of the hind-wing; and the apical white spots of the fore-wing may be only very faintly dusted with red scales in Kisumu specimens.

p. 350. Insert after *Terias hecabe senegalensis* f. *maculata*—*Terias floricola* Bdv. Ungemach found this only in the centre and not commonly.

p. 354. *Melanitis leda*. For " only collected " read " did not collect."

p. 356. *Mycalesis funebris orientis* Ung. For " (? of fore-wing) " read " of hind-wing."

p. 361. *Euphaedra medon* L. Monsieur Ungemach's comments that " the specimen at Tring is *inaequabilis abouna* and not *medon* L " were referred to Dr. K. Jordan, F.R.S., who has kindly replied as follows :—" May 25th, 1936. I have had a look at the Abyssinian *Euphaedra* recorded by us as *E. medon*. We now have 5 ♂♂ and 1 ♀ as follows: Kankuti, Djimma, 15–18.v.25, 3 ♂♂. Godjeb to Nonga, Kaffa, 4.iv.01, 1 ♂. Upper Gilo River, 8.v.01, 1 ♂. Scheko, 27.iv.01, 1 ♀. All are what Ungemach calls *inaequabilis abouna*. I should call them *E. medon abouna*. *E. inaequabilis* was described as a subspecies of *E. lozinga*, the upperside of the wings being dark brown. In my opinion, Ungemach was wrong in identifying *inaequabilis* with *peculiaris*, the ♂ of which has a green upperside. I consider *medon*, *peculiaris* and *abouna* to be the geographical races of one species, as follows :—

(1) *E. medon medon*, West Africa.

(2) *E. medon peculiaris*, Uganda.

(3) *E. medon abouna*, Abyssinia.—K. J."

p. 361. *Hamanumida daedalus* F. Add, after " in the Didessa basin," " and in between. Also in the Somali country of Abyssinia."

p. 362. *Pseudacraea boisduvali* Dbl., f. *sayonis* Ung. In second line, for " straighter " read " narrower." In third line delete " and narrower." In fifth line, for " This " read " The black spot."

p. 368. *Precis terea terea* Drury f. *januarii* Ung. After " median line " delete, and replace by " which is blackish distally and pale yellow proximally."

p. 370. *Precis octavia* Cr. M. Ungemach wrote : " What you say about the general appearance of your males applies to mine, as well for the general shade as for the larger development of the black markings at the base of the wings. But none of my examples is quite as extreme as your figure 23."

p. 375. M. Ungemach was not convinced that *nado* is a form of *alcinoë*, and wrote : " The absence of any black at the limit of the two areas, and on the basal area of the fore-wing is really typical." He points out that although he did not describe the female a figure was given to which I omitted to refer.

p. 375. *Bematistes aganice orientalis* Ung. For " not described," in penultimate line, read " not encountered."

p. 377. *Acraea alciope* ♀ f. *vidua* Ung. M. Ungemach wrote : " My description is obscure, so that I do not wonder at your interpretation ' In his specimen it appears that the remainder of the hind-wing is *fauve*.' This is not so, both wings are quite black, with white bands. In some examples there is between the white band of the hind-wing and the black border a sprinkling of fulvous scales rarely amounting to a very narrow fulvous border."

p. 378. M. Ungemach wrote : "*All* my specimens of *servona* belong to your new form *digitata*."

p. 380. *Acraea safie*. In last line replace " straight " by " narrow."

p. 382. *Acraea cabira* Hpff. f. *natalensis* Stgr. M. Ungemach wrote that he was mistaken in attributing his forms to *natalensis* : they belong to f. *karschi*.

p. 383. *Acraea bonasia banka* Eltr. M. Ungemach's remarks are not quite correctly stated : what he meant was " both *alicia* and *banka* belong to the same *race*, *alicia* is only a form."

p. 384. *Acraea terpsichore* L. " One of my males belongs to your form *bankoides*."

p. 388. *Acraea zetes*. M. Ungemach thought it quite impossible to attribute *oscari* to *zetes*, and urged the following points :—

1. *sidamona* and *oscari* occur together, the latter being more central, the former more western, and he has never found an intermediate. The variation in outline of the margin of the fore-wing in *oscari* is unimportant.

2. The black spots in *oscari*, while almost consistently larger over the whole surface, in two places are smaller than in *zetes* : at the base of the fore-wing, and in the subapical band. (This is not apparent in the subapical band of the series of *oscari* captured by Hodson, although individuals may show it.)

3. The black subapical band in *oscari* is much nearer the apex of the wing, and its continuity with the spot in area 3 is broken, owing to that spot being nearer the base of the area than in *zetes*. Often it only just touches the spot in area 4 forming part of the subapical band, by a corner, and may not touch it at all. But in *zetes* the subapical band is straight from the costa to the spot in area 4, which does not lie near the base of the area. (This is a point to which I have perhaps not paid sufficient attention. The specimen of *zetes sidamona*, however, which I figured on pl. XII, shows an extension of the typical *zetes* spot towards the position it occupies in the area 4 of *oscari*. It may be mentioned also that in *zetes* itself the spot in 4 is sometimes decidedly shifted basally so that the whole subapical band is concave towards the base of the wing.)

4. On the underside in *oscari* the hind-wing is pinkish-cream, the fore-wing of a fine bright red : in *zetes* both wings are pale pink, the fore-wing a little deeper red. (These differences are probably more convincing in living speci-

mens : they do not seem of much importance in the dead material before me.) There is a difference in the markings of the basal area of the underside of the hind-wing : the black, white-spotted area in *zetes* is separated from the ground-colour by a pink areola which is quite lacking in *oscari*. (This is true, and also, as M. Ungemach points out, the black basal spots, which in *zetes* merge to form a continuous patch containing white spots, in *oscari* are still separate. The portions of ground-colour thus left between them are, however, in the same positions as the white spots of *zetes*. I cannot accept this evidence as conclusive of a real difference between the two. It is, however, a difference of the same nature as that produced by the phenomena of mimicry, and is thus not to be lightly negatived.)

5. The proportions of the wings are different : although *zetes sidamona* is very variable there is never the least transition to *oscari* of which the wings are never more than twice as long as their greatest width : a proportion which is mostly 1 to 2½ in *zetes*.

6. Too much stress should not be laid upon similarity of genitalia as an index of conspecificity.

p. 389. *Acraea neobule* Dbl. Ungemach took two males on the Baro : it exists also in Harar.

p. 390. *Libythea labdaca* Westw. M. Ungemach wrote : " My captures may well be *labdaca* instead of *laïus* as you suggest, but in that case the descriptions and figures of both are shamefully bad in Seitz. On my specimens the light brown band of the hind-wing has never more than four spots, the last often scarcely visible or quite obsolete."

p. 396. *Anthene crawshayi* Btlr. M. Ungemach wrote that he had overlooked a number of specimens which he had separated from typical *crawshayi*, and are probably the species described by Talbot as *A. sobrina* (1935, *Ent. mon. Mag.*, **71** : 208–9, and pl. IV, figs. 12 and 13). They were taken " everywhere from the Baro to Dire-Dawa, whereas *crawshayi* seems not to be found in the Somali type of country. What Talbot says of the holotype of *sobrina* (female) is true of these males too. Moreover, they have on the hind-wing a character which separates them well from *crawshayi* : a submarginal spot in each interval, very slightly darker than the ground-colour, but distinctly bordered proximally by lighter arcs." This character, however, is not obvious in the ♀ holotype of *sobrina* at Oxford, nor is it clear how the specimens alluded to differ, at least in the female sex, from the variety to which M. Ungemach gives the name ♀ form *albilunata*.

p. 397. *Cacyreus palemon ghimirra* Talbot. M. Ungemach wrote : " My examples seem intermediate between *p. palemon* and *p. ghimirra* though nearer to the latter. They all have the spots in area 3 on the underside of the hind-wing larger than in Talbot's figure."

p. 398. *Castalius ertli*. When M. Ungemach wrote the account of his Abyssinian collection the form *kaffana* Talbot had not been separated. (Talbot, 1935, *Ent. mon. Mag.*, **71** : 149, and pl. II, fig. 17.) He now tells me that " My specimens are undoubtedly of the race *kaffana*. In only one specimen are the postdiscal spots united with the marginal band."

p. 401. *Euchrysops reducta niveocincta* Ung. Add " One example taken on the Baro, May 1925."

p. 401. *Euchrysops osiris* Hpffr. M. Ungemach wrote : " My specimens are at least as near *o. osiris* as to *o. brunneus*."

p. 401. *Euchrysops elicola* Strand. Add " Ungemach took two males in the centre."

p. 402. *Cupidopsis cissus* Godt. Last line: for "October" read "April."
p. 404. Line 2. For "our European form" read "our form in Europe."
p. 407. *Gegenes obumbrata* Trim. For "very rare" in the last line read "rarer."
p. 408. *Metisella tsadicus* Auriv. M. Ungemach wrote: "I accept Evans' determination of *birbiranus* as *tsadicus*, if '*ogwani*' is also *tsadicus*. My specimens quite consistently show in interval 4 of the hind-wing on underside scarcely a trace of black scales."
p. 409. Footnote 2. Delete "females" and substitute "belonging to the known female."

Finally, in connection with the selection of the contour line of 1500 metres (p. 315) M. Ungemach wrote: "I might specify that all species mentioned in my paper as occurring on the Baro only, or on the Baro and in the Somali country only, are decidedly alien to the true Abyssinian fauna occurring above the 1500 metre line which you very aptly describe as the boundary of the Abyssinian area. None of my 'Baro' specimens was caught above 700–800 metres."